

ORCHIDS COLLECTED DURING THE JAPANESE
EXPEDITIONS TO THAILAND
IN 1958 AND 1965-1966

by

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A collection of 40 orchids specimens, collected by Drs. M. TAGAWA, K. IWATSUKI and Mr. FUKUOKA of the Kyoto University on a botanical expedition in Thailand during November 1965-February 1966, has been sent to the author for determination. In this collection two new records come to light, i.e. *Anoectochilus crispus* LINDL. and *Eria pusilla* (GRIFF.) LINDL. The serial number of this collection has the letter T as precedence.

Besides the above-mentioned collection, a short visit to the Herbarium, Department of Botany, Faculty of Science, University of Tokyo during the 11th Pacific Sciences Congress enabled the author to go through the orchid collection gathered by the late Dr. H. HAYATA in 1921, and by Drs. H. OGAWA, K. YODA and T. TUYAMA on the Osaka City University Botanical Expedition (OCUBE) in 1958, of which 48 species are represented including a few sheets of Dr. TUYAMA'S own collection.

HAYATA'S orchid collection has not yet been studied by any one else except Dr. T. TUYAMA of the Ochanomizu University, Tokyo, who described two new species of *Gastrodia* in the Journal of Japanese Botany Vol. 17 (1941), p. 580.

To supplement the knowledge on the distribution of Thai orchids, it is advisable to put these collections on the record for further references.

The generic sequence in this paper follows that of SEIDENFADEN & SMITINAND (1959-1965).

Paphiopedilum sukhakulii SCHOSER & SENGHAS in *Orchidee* **16** (1965): 109

Northeastern. Loei, Phu Luang, eastern slope, 900-1400m, on moist, mossy rock in deep shade; December 6, 1965 (T. 1794, sterile).

Endemic to Thailand.

Paphiopedilum villosum (LINDL.) PFITZ. in *Engl. Bot. Jahrb.* **19** (1894): 41; SEIDENF. & SMITIN., *Orch. Thai.* (1959-1965): 11

Northeastern. Loei, Phu Luang, at its north-eastern ridge, 1300-1562m, on mossy trunk in forest at ridge; December 5, 1965 (T. 1573).

Burma, Assam, Thailand. Not hitherto recorded from the Northeast.

Habenaria dentata (SUR.) SCHLTR. in *Fedde Repert. Beih.* **4-6** (1919): 125; SEIDENF. & SMITIN., *L.c.*, 39.

Northern. Chiang Mai, September 25, 1921 (HAYATA s.n.); Huay Tat, Muong Khu, February 16, 1958 (OCUBE 216-86); Doi Suthep, October 7, 1921 (HAYATA s.n.); *ibid.*, 5000ft., October 14, 1921 (HAYATA s.n.).

India, China, Indo-China, Thailand.

Habenaria garrettii ROLFE *ex* DOWNIE in *Kew Bull.* (1925): 418; SEIDENF. & SMITIN., *L.c.*, 28.

Northern. Chiang Mai, Doi Suthep, October 7, 1921: flowers pale green (HAYATA s.n.).

Endemic to Thailand.

Habenaria malintana MERR., *Sp. Blanc.* (1918): 112; SEIDENF. & SMITIN., *L.c.*, 22.

Northern. Chiang Mai, enroute from Mae Klang waterfall to Ban Yang, along Nam Mae Klang, on approach to Doi Inthanond, 350-600m, alt.; December 16, 1965 (T. 2319); Pang Kiah-Mae Kachan, October 31, 1921; flowers white (HAYATA s.n.); Doi Chiengdao, from Ban Huay Tat, 900m upwards, (TUYAMA 57362).

Burma (Tenasserim), Thailand, Indo-China, Philippines.

Habenaria recurva ROLFE *ex* DOWNIE, *L.c.*, 420; SEIDENF. & SMITIN., *L.c.*, 33.

Northern. Chiang Mai, Doi Suthep, October 2, 1921; flowers yellow-green (HAYATA s.n.).

Endemic to Thailand; up to the present known only from Chiang Mai Province.

Habenaria rostrata WALL. in LINDL. *Gen. Sp. Orch. Pl.* (1830-1840): 325; SEIDENF. & SMITIN., *L.c.*, 35.

Northern. Chiang Mai, Huay Kaew, October, 1921; dark brown lateral sepals (HAYATA s.n.).

Burma, Thailand.

Habenaria cf. sutepensis ROLFE *ex* DOWNIE, *l.c.*, 420; SEIDENF. & SMITIN., *l.c.*, 34.

Northern. Chiang Mai, Pang Pa Paw-Pang Kiah, October 30, 1921; flowers white (HAYATA s.n.).

Endemic to Thailand.

Habenaria trichochila ROLFE *ex* DOWNIE, *l.c.*, 421; SEIDENF. & SMITIN., *l.c.*, 45.

Northeastern. Entre Nakhay (Nong Khai) et Huai Hai, November 28, 1921; flowers white and pale green (HAYATA s.n.).

Endemic to Thailand; not hitherto recorded from this locality.

Aphyllorchis caudata ROLFE *ex* DOWNIE, *l.c.*, 415; SEIDENF. & SMITIN., *l.c.*, 61.

Northern. Chiang Mai, Doi Suthep, October 14, 1921; tepals purple, striate, column yellow (HAYATA s.n.).

South China (Yunnan), Thailand.

Gastrodia hayatae TUYAMA in Journ. Jap. Bot. **17** (1941): 580; SEIDENF. & SMITIN., *l.c.*, 74.

Only one sheet of the type specimen exists in the collection; the only mutilated flowers is too poor to give a thorough study. In general it approaches *G. siamensis* ROLFE *ex* DOWNIE, found common at Doi Suthep in Chiang Mai, where the type of Tuyama's species was collected.

Anoectochilus crispus LINDL. in Journ. Linn. Soc. **1** (1857): 180.

Northeastern. Loei, interior of Nam Thop, on eastern slope of phu Luang, 400-500m alt., in dense evergreen forest on mountain slope; December 7, 1965 (T. 1923).

India (Sikkim Himalaya, Khasia Hills), Thailand. This is the first record for Thailand. (Fig. 1).

Anoectochilus geniculatus RIDL. in Journ. Linn. Soc. **32** (1890): 406; SEIDENF. & SMITIN., *l.c.*, 88.

Peninsular. Trang, lower elevation of Khao Chawng, 100-800m alt., on moist ground in deep evergreen forests on mountain ridge, 800m; January 26, 1966 (T. 6714).

Malaya, Peninsular Thailand.

Anoectochilus siamensis SCHLTR. in Fedde Repert. **2** (1906): 83; SEIDENF. & SMITIN., *l.c.*, 91.

Northeastern. Loei, Phu Krading, on the plain at its summit, ca 110-1200m; in dark shade; November 28, 1965 (T. 545).

Endemic to Thailand.

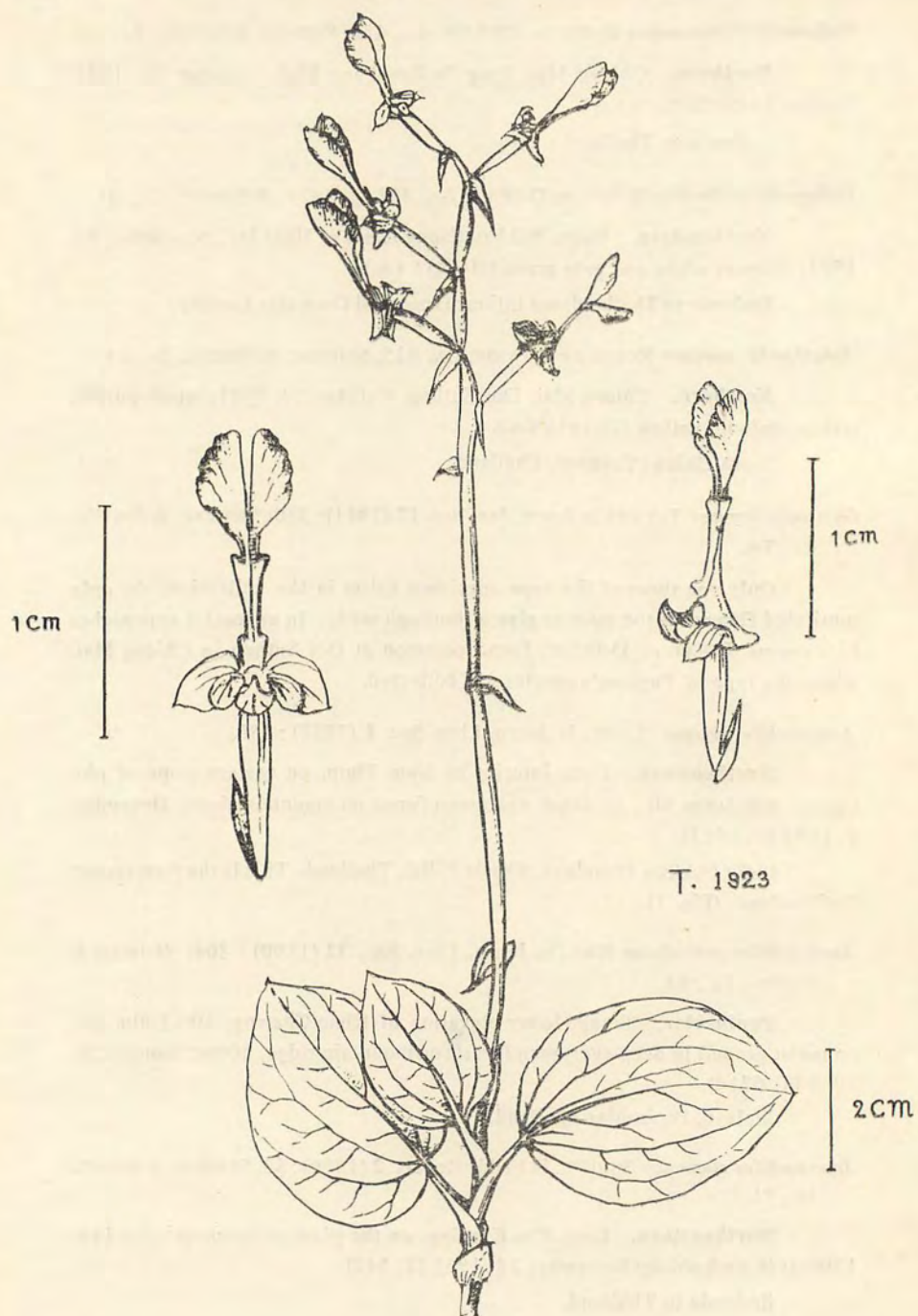


Fig. 1. *Anoectochilus crispus* LINDL.

Hetaeria nitida RIDL. in Journ. Linn. Soc. **32** (1896): 404; SEIDENF. & SMITIN., *l.c.*, 735.

Peninsular. Nakhorn Srithamarat, higher elevation of Khao Luang, 1100-1786 m alt., on mossy moist ground in thickets at summit; January 21, 1966 (T. 4850).

Thailand, Malaya; not hitherto recorded from Peninsular Thailand.

Tropidia angulosa BL., Orch. Arch. Ind. (1858): 122; SEIDENF. & SMITIN., *l.c.*, 97.

Northern. Mae Hongson, Ban Pasui, March 22, 1958 (TUYAMA 58106).

North India, Burma, Thailand, Malaya, Java. This species is not previously reported from Mae Hongson.

Tainia hookeriana KING & PANTLING in Journ. As. Soc. Beng. **64** (1897): 336; SEIDENF. & SMITIN., *l.c.*, 740.

Northern. Chiang Mai, Doi Suthep, 4000ft., October 14, 1921; sepals and petals brownish, lip slightly purple, (HAYATA s.n.).

India (Sikkim), Thailand, Vietnam, Hainan.

Coelogyne fuscescens LINDL. in WALL. Cat. (1828) No. 1962 et Sp. Gen. Orch. Pl. (1830-1840): 41; SEIDENF. & SMITIN., *l.c.*, 112.

Northeastern. Loei, Phu Luang, Northeastern ridge 1300-1562m, on mossy branch in evergreen forest; December 5, 1965 (T. 1552).

Burma (Tenasserim), Thailand.

Coelogyne longipes LINDL., Fol. Orch. (1852): 10; SEIDENF. & SMITIN., *l.c.*, 126.

Northern. Chiang Mai, Muongkhue-Huay Tat, Feb. 18, 1958 (OCUBE 218-20).

Northeastern. Loei, Phu Luang, at its northeastern ridge, 1300-1562m, on mossy branch in dense forest; December 5, 1965 (T. 1556).

India, Burma, Thailand; not hitherto recorded from Phu Luang.

Neogyne gardneriana (LINDL.) RCHB. F., Bot. Zeitschr. **10**: (1852): 931; SEIDENF. & SMITIN., *l.c.*, 134.

Northern. Chiang Mai, Doi Inthanond, 1300-1500m, January 10, 1958 (OCUBE 110-103).

Nepal, India, South China (Yunnan), Thailand.

Pholidota convallariae (RCHB. F.) HK. F., Icon. Pl. (1889), t. 1880; SEIDENF. & SMITIN., *l.c.*, 137.

Northern. Chiang Mai, Ban Yang, at middle of elevation of Doi Inthanond, 600-1350m, December 17, 1965 (T. 2446).

India, Burma, Thailand.

Pholidota griffithii HK. F., Icon. Pl. (1887), t. 1881; SEIDENF. & SMITIN., *l.c.*, 140.

Northern. Chiang Mai, higher elevation of Doi Suthep (Doi Pui), 1000-1685m, on mossy trunk in thin forest near summit; December 23, 1965 (T. 3206); Doi Suthep, October 9, 1921 (HAYATA s.n.); Muong Khu, South peak, February 17, 1958 (OCUBE 217-29); Doi Chiangdao, 2000m, February 17-18, 1958 (TUYAMA s.n.).

Northeastern. Loei, Phu Luang, at its northeastern ridge, 1300-1562m, on mossy branch in dense forest; December 5, 1965 (T. 1555).

From Himalaya through Thailand to Malaysia. Not previously recorded from Phu Luang.

Pholidota pallida LINDL., Bot. Reg. (1836), sub. t. 1777; SEIDENF. & SMITIN., *l.c.*, 137.

Northern. Chiang Mai, Pang Papoun-Pang Kiah, October 30, 1921 (HAYATA s.n.).

Northeastern. Loei, Phu Luang, northeastern ridge, 1300-1562m, on mossy branch in evergreen forest; December 5, 1965 (T. 1551).

From western Himalaya and China through Thailand, Malaysia to Australia. Not previously recorded from Northeastern Thailand.

Pholidota recurva LINDL., Gen. Sp. Orch. Pl. (1830-1840): 37; SEIDENF. & SMITIN., *l.c.*, 759.

Northeastern. Loei, Phu Luang, north ridge, 1100-1500m, on mossy trunk in moist, dense forest; December 4, 1965 (T. 1202).

India, Thailand. Not recorded before from the Northeast.

Otochilus alba LINDL. in WALL. Cat. (1828), No. 1967 et Gen. Sp. Orch. Pl. (1830-1840): 35; SEIDENF. & SMITIN., *l.c.*, 145.

Northern. Mae Hongson, Phong Sawan, Ban Phu Phao, January 1, 1958 (TUYAMA 57270). Chiang Mai, Ban Yang, at middle elevation of Doi Inthanond, 600-1350m, December 17, 1965 (T. 2442).

India, Burma and Thailand. Not previously recorded from Mae Hongson province.

Otochilus fusca LINDL. in Wat. Cat. (1828) No. 1969 et Gen. Sp. Orch. Pl. (1830-1840): 5; SEIDENF. & SMITIN., *l.c.*, 145.

Northeastern. Chiang Mai, Doi Inthanond, 1300-1500m, January 10, 1958 (OCUBE 110-102).

Central. Nakhorn Nayok, Khao Khieo, a high ridge in Khao Yai National Park, ca 1250m, on mossy trunk in thin forest; February 18, 1966 (T. 7474).

From India through Thailand to Vietnam.

Oberonia iridifolia (ROXB.) LINDL., Gen. Sp. Orch. Pl. (1830-1840) : 15; SEIDENF. & SMITIN., l.c., 160.

Northern. Chiang Mai, Muong Khu-Huay Tat, February 18, 1958 (OCUBE 218-9); Muong Khu, February 16, 1958 (OCUBE 216-107, 216-17); higher elevation of Doi Suthep (Doi Pui), 1000-1685m, on mossy trunk in thin forest near summit; December 23, 1965 (T. 3205).

Northeastern. Loei, interior of Nam Thop, on eastern slope of Phu Luang, 400-850m, on mossy trunk in thin forest; December 7, 1965 (T. 1930).

From Eastern Himalaya through Thailand to Malaysia. Not previously recorded from the Northeastern region.

Liparis plantaginea LINDL., Gen. Sp. Orch. Pl. (1830-1840) : 29; SEIDENF. & SMITIN., l.c., 176, 766.

Vietnam. Tamdao, August 4, 1917 (HAYATA s.n.), Chapa, June 27, 1917 (HAYATA s.n.).

India through Thailand to Vietnam. Being a new record to Vietnam, it is included here to show its easternmost distribution.

Liparis viridiflora (BL.) LINDL., Gen. Sp. Orch. Pl. (1830-1840) : 31; SEIDENF. & SMITIN., l.c., 178.

Northeastern. Loei, North ridge of Phu Luang, 1100-1500m, on mossy rock in moist, dense forest; December 4, 1965 (T. 1205).

From Ceylon, India, China through Thailand to Indo-China, Malaysia and Philippines.

Arundina graminifolia (DON) HOCHR. in Bull. N.Y. Bot. Gard. 6 (1910) : 270; SEIDENF. & SMITIN., l.c., 184.

Northeastern. Loei, Phu Krading, common on the plain at its summit, ca 1100-1200m, on rather moist ground in open places; November 28, 1965 (T. 555).

From Himalaya, China through Thailand to Indo-China, Malaysia to Tahiti.

Dendrobium devonianum PAXT., Mag. Bot. 7 (1840), t. 169; SEIDENF. & SMITIN., l.c., 208.

Northern. Mae Hongson, Ban Pasui, March 1958 (TUYAMA 58505).

From Assam through China, Burma and Thailand to Indo-China. Not previously reported from Mae Hongson.

Dendrobium fimbriatum HK., Ex. Fl. (1823), t. 71; SEIDENF. & SMITIN., l.c., 202, 771.

Northern. Mae Hongson, Ban Pasui, March 1958 (TUYAMA 58504).

From Nepal, Burma through Thailand to Indo-China. Reported from Mae Hongson for the first time.

Dendrobium infundibulum LINDL. in Journ. Linn. Soc. 3 (1859): 15; SEIDENF. & SMITIN., *l.c.*, 224.

Northern. Mae Hongson, Doi Pui, near Ban Pasui. (TUYAMA 58696); Chiang Mai, Muong Khu-Huay Tat, February 18, 1958 (OCUBE 218-11).
Burma, Thailand. Not recorded from Mae Hongson before.

Dendrobium lindleyi STEUD., Nomencl. (1840): 490; HUNT & SUMMERH. in Kew Bull. 20 (1966): 55.

D. aggregatum ROXB., Fl. Ind. (1832): 477 non KUNTH (1815); SEIDENF. & SMITIN., *l.c.*, 192.

Northern. Chiang Mai, Doi Suthep, September 12, 1958 (OCUBE 212-92).

From Himalaya through South China (Yunnan) to Hongkong, Thailand and Indo-China.

Dendrobium parcum RCHB. F. in Gard. Chron. (1866): 1042; SEIDENF. & SMITIN., *l.c.*, 241.

Northern. Chiang Mai, Doi Chiangdao, Ban Huay Tat, 900m, December 1957 (TUYAMA 57344); Huay Tat, Nam Khu, February 16, 1958 (OCUBE 216-75).
Burma, Thailand.

Dendrobium scabrilingue LINDL. in Journ. Linn. Soc. 3: 25 (1859); SEIDENF. & SMITIN., *l.c.*, 227.

Northern. Chiang Mai, cultivated, January 27, 1958 (OCUBE 127-11).

Central. Bangkok, January 13, 1964 (TOGASHI s.n.).

Burma, Thailand.

Dendrobium thyrsiflorum RCHB. F., Ill. Hort. 22 (1875), t. 207; SEIDENF. & SMITIN., *l.c.*, 195.

Northern. Mae Hongson, Ban Pasui, March 1958 (TUYAMA 58825).

Lower Burma and Thailand. Not previously recorded from Mae Hongson.

Dendrobium tortile LINDL. in Gard. Chron. (1847): 797; SEIDENF. & SMITIN., *l.c.*, 215.

Northern. Mae Hongson, market, March 4, 1958 (TUYAMA 58018).

From Burma through Thailand to Indo-China and Malaya. Not previously recorded from Mae Hongson.

Epigeneium fargesii (FINET) GAGNEP. in Bull. Mus. Fr. 4 (1932): 595; SEIDENF. & SMITIN., *l.c.*, 780.

Northern. Chiang Rai, north slope of Doi Pacho (Doi Langka), 1350-1800m, on mossy trunk in thin forest on mountain ridge; December 27, 1965 (T. 3360).

South China (Yunnan) and Thailand. This interesting species is so far only once before collected by the late Mr. H.B.G. GARRETT, and this is the second record from Thailand.

Eria bractescens LINDL., Bot. Reg. Misc. (1841) : 18; SEIDENF. & SMITIN., *l.c.*, 305.

Northern. Chieng Mai, Doi Suthep, February 12, 1958 (OCUBE 212-94).

From India through Burma to Thailand, Indo-China, Malaya, Sumatra and Philippines.

Eria dasyphylla PAR. & RCHB. F. in Trans. Linn. Soc. **30** (1874) : 147; SEIDENF. & SMITIN., *l.c.*, 285.

Northern. Chieng Mai, middle elevation of Doi Inthanond, 1350-1900m, on mossy trunk in deep shade; December 18, 1965 (T. 2579). Chieng Rai, northern slope of Doi Pacho (Doi Langka), 1350-1800m, on mossy trunk in light forest on mountain ridge; December 27, 1965 (T. 3661).

From Himalaya through Burma to Laos and Thailand.

Eria flava LINDL. in WALL. Cat. (1828) No. 1973 et Gen. & Sp. Orch. Pl. (1830-1840) : 65.

Eria albido-tomentosa LINDL., SEIDENF. & SMITIN., *l.c.*, 290, 783 in part.

Northeastern. Loei, Phu Krading, on the plain at its summit, ca 1100-1200m, on exposed rock in sunny place; November 28, 1965 (T. 542).

From India through Burma to Thailand.

This species is closely related to *E. albido-tomentosa* (BL.) LINDL. under which it is being lumped in recent work.

Eria pannea LINDL., Bot. Reg. Misc. (1842) : 64; SEIDENF. & SMITIN., *l.c.*, 294.

Northern. Chieng Mai, Doi Inthanond, 1300-1500m, January 10, 1958 (OCUBE 110-101).

From Eastern Himalaya and South China through Thailand to Malaya and Sumatra.

Eria pusilla (GRIFF.) LINDL. in Journ. Linn. Soc. **3** (1859) : 49; KRAENZLIN in ENGL. Pflanzenr. **50** (1911) : 21.

Northeastern. Loei, eastern slope of Phu Luang, 900-1400m alt., on mossy trunk in thin forest; December 6, 1965 (T. 1793).

From India to Thailand. Recorded for the first time in Thailand. (Fig. 2).

Eria spicata (D. DON) HAND.-MAZZ., Symb. Sin. (1936) : 1352; SEIDENF. & SMITIN., *l.c.*, 306.

Northern. Chieng Mai, Huay Tat-Muong Khu, February 16, 1958 (OCUBE 216-106).

From Himalaya through Burma to Thailand and Indo-China.

Eria stricta LINDL., Coll. Bot. (1821), t. 41 B; SEIDENF. & SMITIN., *l.c.*, 297.

Northern. Chieng Mai, Ban Yang, at middle elevation of Doi Inthanond, 600-1350m, on mossy trunk in deep shade; December 17, 1965 (T. 2447).



Fig. 2. *Eria pusilla* (GRIFF.) LINDL.

Northeastern. Loei, eastern slope of Phu Luang, 900-1400m, on mossy rock in thin forest; Dedember 6, 1965 (T. 1792).

Central. Nakhorn Nayok, Khao Khieo, a high ridge in Khao Yai National Park, ca 1250m, on mossy trunk in light shade; February 18, 1966 (T. 7469).

Southeastern. Chantburi, higher elevation of Khao Soidao, 700-1525m, on wet rock in deep shade, 1500m alt.; February 8-9, 1966 (T. 7113).

From Himalaya through Burma to Thailand and Indo-China.

Eria truncata LINDL. in Journ. Linn. Soc. 3 (1859) : 158; SEIDENF. & SMITIN., *l.c.*, 300.

Northeastern. Loei, Phu Luang, at its northeastern ridge, 1300-1562m, on mossy branch in deep shade; December 5, 1965 (T. 1557).

Burma, Laos and Thailand. Not previously recorded from the Northeast.

Tainiopsis barbata (LINDL.) SCHLTR. in Orchis, 9 (1915) : 10; SEIDENF. & SMITIN., *l.c.*, 313.

Northern. Chiang Mai, Doi Suthep (HAYATA s.n.).

From Burma through Thailand to Vietnam.

There is neither indication of date nor locality on this sheet, it is presumably that the plant was collected at Doi Suthep, where HAYATA paid a visit in October 1921; this species is found fairly common at an elevation of 1500m.

Agrostophyllum cf. khasianum GRIFF. in Calc. Journ. Nat. Hist. **4** (1844): 378; SEIDENF. & SMITIN., *l.c.*, 319, 789.

Northern. Chieng Mai, Muong Khu-Huay Tat, February 18, 1958 (OCUBE 218-19).

From Assam through Burma to Thailand. Not previously recorded from the North.

Podochilus lucescens BL., Bijdr. (1825): 295; SEIDENF. & SMITIN., *l.c.*, 321.

Peninsular. Trang, middle elevation of Khao Chong, 600-1100m, on mossy rock in light shade at mountain ridge; January 27, 1966 (T. 6845).

From Burma through Thailand to Malaysia and Sumatra.

Polystachya flavescens (BL.) J.J.S., Fl. Buit. **6** (1905): 284; SEIDENF. & SMITIN., *l.c.*, 326, 791.

Northern. Mae Hongson, Phong Sawan North-East of Ban Hang, January 3, 1958 (TUYAMA 57427).

From Thailand through Malaya to Sumatra and Philippines.

Anthogonium gracile LINDL. in WALL., Cat. (1828), No. 7398 *et* Gen. Sp. Orch. Pl. (1830-1840): 426; SEIDENF. & SMITIN., *l.c.*, 327.

Northern. Chieng Mai, Doi Suthep, 5000ft. October 14, 1921; flowers nearly white, lip reddish (HAYATA s.n.).

From India through Burma, China, Thailand to Indo-China.

Phaius longipes (HK. F.) HOLT. in Gard. Bull. **11** (1947): 286; SEIDENF. & SMITIN., *l.c.*, 329.

Northeastern. Loei, Phu Krading on the plain at its summit, ca 1100-1200m, flowers yellow, common in moist place in dark shade; November 28, 1965 (T. 549); Phu Luang, at its northeastern ridge, 1300-1562m alt., on moist ground in dense forest; December 5, 1965 (T. 1563).

From India eastwards through China to Vietnam, southwards through Thailand to Malaya.

Calanthe cardioglossa SCHLTR. in Fedde Repert. **2** (1906): 85; SEIDENF. & SMITIN., *l.c.*, 338.

Northern. Chieng Mai, Doi Suthep; December 6, 1957 (TUYAMA 57123).

Eastern. Entre Bankikh and Pak Soong (= Pak Chong), December 24, 1921, (HAYATA s.n.).

From Thailand to Indo-China.

Calanthe foerstermannii RCHB. F. in Gard. Chron. **1** (1883): 814; SEIDENF. & SMITIN., *l.c.*, 335.

Peninsular. Nakhorn Srithamarat, middle elevation of Khao Luang, 950-1100m alt., in moist, deep forest on mountain slope; January 20, 1966 (T. 4706).

From Assam southwards through Thailand to Malaya.

Spathoglottis eburnea GAGNEP. in Bull. Mus. Paris, Ser. 2, 3 (1931) : 685; SEIDENF. & SMITIN., *l.c.*, 343.

Northern. Chiang Mai, Hue San, November 5, 1921; flowers cream-coloured (HAYATA s.n.).

Thailand and Cambodia. This is the second collection from Thailand.

Spathoglottis pubescens LINDL. in Wall. Cat. (1828), No. 3744 et Gen. Sp. Orch. Pl. (1830-1840): 120; SEIDENF. & SMITIN., *l.c.*, 343.

Northern. Chiang Mai, September 25, 1921; flowers yellow, sunny place (HAYATA s.n.).

From India through China, Thailand to Indo-China.

Bulbophyllum comosum COLL. & HEMSLE. in Journ. Linn. Soc. 28 (1890) : 130; SEIDENF. & SMITIN., *l.c.*, 404.

Northern. Chiang Mai, Muong Khu, South peak, February 17, 1958 (OCUBE 217-35); Muong Khu-Huay Tat, February 18, 1958 (OCUBE 218-28).

From Shan States to Thailand.

Bulbophyllum dixonii ROLFE in Kew Bull. (1908) : 412; SEIDENF. & SMITIN., *l.c.*, 429.

Northern. Chiang Mai, Muong Khu - Huay Tat, February 18, 1958 (OCUBE 218-66, 218-76); Doi Suthep, October 9, 1921; flowers brown (HAYATA s.n.).

Endemic to Thailand.

Bulbophyllum tripudians PAR. & RCHB.F. in Trans. Linn. Soc. 30 (1874) : 154; SEIDENF. & SMITIN., *l.c.*, 794.

B. refractum RCHB.F. in WALP. Ann. 6 (1861) : 259; SEIDENF. & SMITIN., *l.c.*, 363.

Northern. Mae Hongson, Doi Pui near Ban Pasui, March 29, 1958 (TUYAMA 58674).

Burma and Thailand. Not previously collected from Mae Hongson.

Bulbophyllum suavisimum ROLFE in Gard. Chron. 1 (1889) : 297; SEIDENF. & SMITIN., *l.c.*, 407.

Northern. Chiang Mai, Muong Khu, South peak, February 17, 1958 (OCUBE 217-26).

Burma and Thailand.

Ione candida LINDL., Fol. Orch. 2 (1853); SEIDENF. & SMITIN., *l.c.*, 449.

Northeastern. Loi, Phu Luang, at its northeastern ridge, 1300-1562m alt., on mossy trunk in moist, dense forest; December 5, 1965 (T. 1579).

From Assam to Thailand. Collected for the first time from the Northeast.

Ione sp.

Central. Nakhorn Nayok, Khao Khieo, a high ridge in Khao Yai National Park, ca 1250m, on mossy trunk in thin forest; February 18, 1966 (T. 7475).

This is identical with *Ione* sp. CUMB. 708 referred to in SEIDENF. & SMITIN., *l.c.*, 811.

Eulophea graminea LINDL. in WALL. Cat. (1828), No.7372 et Gen. Sp. Orch. Pl. (1830-1840) : 182; SEIDENF. & SMITIN., *l.c.*, 483.

Northeastern. Entre Tha Khet (Tha Khaek) et Ban Tham; December 11, 1921 (HAYATA s.n.).

From Ceylon through India, Burma to Thailand, Indo-China, Malaya and Philippines.

Eulophea siamensis ROLFE ex DOWNIE, *l.c.*, 380; SEIDENF. & SMITIN., *l.c.*, 497.

Northern. Chiang Mai, Doi Suthep, October 2, 1921; flowers yellowish outside, lip slightly purple (HAYATA s.n.).

Endemic to Thailand.

Cymbidium ensifolium SW. in Nov. Act. Upsal. 6 (1799) : 77; SEIDENF. & SMITIN., *l.c.*, 511.

Northern. Mae Hongson, Phu Phao, on the summit, under the forest north of Ban Phu Phao, January 1, 1958; *fl. pallide, luteo-virida* (TUYAMA 57635).

From China and Japan through Thailand to Sumatra and Java. Not previously collected from Mae Hongson.

Cymbidium insigne ROLFE in Gard. Chron. 1 (1904) : 387; SEIDENF. & SMITIN., *l.c.*, 506.

Northeastern. Loei, Phu Luang, at its north-eastern ridge, 1300-1562m, on moist, sandy ground in open space; December 5, 1965 (T. 1561).

Vietnam and Thailand. This is the second locality in Thailand so far recorded.

Cymbidium cf. lowianum RCHB.F. in Gard. Chron. n.s. 10 (1879) : 332, 405, fig. 56; SEIDENF. & SMITIN., *l.c.*, 504.

Northern. Chiang Mai, middle elevation of Doi Inthanond, 1350-1900m, December 18, 1965 (T. 2581, in fruit).

Burma and Thailand.

Thrixspermum arachnites (BL.) RCHB.F., Xen. Orch. 2 (1867) : 121; SEIDENF. & SMITIN., *l.c.*, 519.

Central. Nakhorn Nayok, Khao Khieo, a high ridge in Khao Yai National Park, 1250m, on mossy trunk in light shade; February 18, 1966 (T. 7473).

From Assam through Thailand to Indo-China, Malaysia and Indonesia.

Doritis pulcherrima LINDL., Gen. Sp. Orch. Pl. (1830-1840) : 178 SEIDENF. & SMITIN., *l.c.*, 540.

Northern. Entre Keu Tao (Ku Tao) et Domie, December 2, 1921 (HAYATA s.n.)

From Burma through Thailand to Indo-China, Malaya and Sumatra. The locality given by HAYATA is not clear, presumably in Chieng Mai.

Vanda denisoniana BENS. & RCHB.F. in Gard. Chron. (1869) : 528; SEIDENF. & SMITIN., *l.c.*, 580.

Northern. Mae Hongson between Ban Hang and Ban Phu Phao, December 30, 1958 (TUYAMA s.n.).

Burma and Thailand.

Sarcanthus flagelliformis ROLFE ex DOWNIE, *l.c.*, 393; SEIDENF. & SMITIN., *l.c.*, 697.

Northern. Chieng Mai, Huay Tat-Muong Khu, February 16, 1958 (OCUBE 218-88); Doi Saket, Mae Wan, October 28, 1921; flowers yellow-red (HAYATA s.n.).

From Thailand to Indo-China.